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THE CONCEPT

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SWAMI MADHAVTIRTHA

Opinion of **Swami Shri Tapovanji** of Utter Kashi (Himalayas) on the book **"Evolution and Relativity".**

I am very much pleased to read your small book "Evolution and Relativity." You argue just like Gaudapada who is considered to be the great interpreter of **अजातवाद** (the doctrine of non-creation). But all his arguments depend upon mere **श्रुति** (scriptures) and **अनुमान** (inferences). You argue strongly standing upon the rock of modern science; that is the difference. Therefore I think, your arguments will be more appreciated by the modern educated men.

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THE CONCEPT OF TIME
IN
INDIAN PHILOSOPHY

Swami Madhavtirtha

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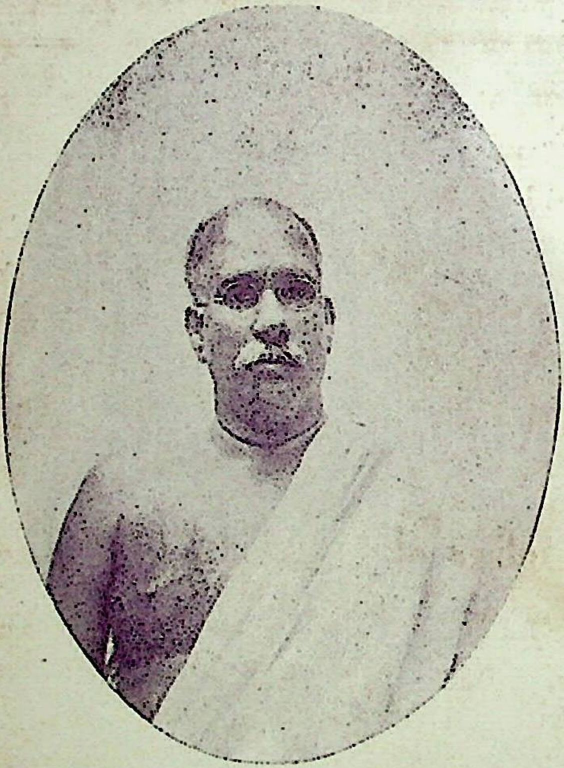

Shree Kovilakathu Narayanan
Madhava Kartha.

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In memory of
Shree Kovilakathu
Narayanan Madhav Kartha
Shertally
(Travancore)

father of G. Rudrani Amma
(Lady Doctor, Dhrangadhra)
(Saurastra)

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INTRODUCTION.

In the year 1950, the Indian Philosophical Congress had invited an eassy on "the concept of time in Indian Philosophy" from the under-graduate and graduate students of the Indian Universities. From the philosophical point of view, the subject is very important. I have taken keen interest in this subject for many years. Although I could not come under the class of students mentioned above, I began to write on the subject and the result is this small book as my essay. On inquiry I found that only three essays had been received by the I. P. Congress from the students of the Indian Universities. This shows that many persons are not interested in this subject either because it is difficult or because they think that what they know about time is sufficient for their purpose.

In the Vedant Philosophy the following six elements have been accepted to be अनादि i. e.. they have no beginning:—

1.	ब्रह्म	Absolute being.
2.	जीव	individual.
3.	ईश्वर	God
4.	माया	Limitation of the absolute,
5.	अविद्या	Limitation of the individual.
6.	संबंध	Relation.

The first is called अनादि (without beginning) and अनन्त (without end) and the last five are called अनादि without beginning but having an end अन्त,

Some body can put a question that an element which has an end must have a beginning. The logical portion of the Indian Philosophy replies that just as a pot, when in the form of clay, has no beginning, अनादि and that condition comes to an end when a pot is formed, similarly, the above six elements have no beginning; or if we try to find the beginning of the first cause of a thing, and we cannot get it, we call that अनादि. The next question that comes for our consideration is, why there should be six without beginning and not more nor less? Here there is a question of space i. e. who has created the space between the above six elements and whether that space is true? This question has not been solved because difference or भेद् is also taken as अनादि i. e. without beginning. But modern science of Relativity gives a very good explanation about the intervening space i. e. the structure of space is not determined until the functions of the co-ordinates प्रमाता प्रमाण and प्रमेय are known. This means in other words that space has a field-quality and does not come in existence until a field comes in existence.

One interesting question that comes up for consideration is whether God knows or can know all the events of all the creatures of all the worlds. Shri Bhagwat says that he does not, vide 2–6–35, 10–51–37 and 10–87–41. Modern science says that the question is incomplete i. e. we must first try to know how one event is known and then try to solve the question of other events or many events. Perceptual space is within the perceptual event. As in dream so in the waking condition. The only events which an observer actually experiences are events at himself. Therefore, the only reply to the above question is to take into consideration the position of the man who raises the above question i. e how and why he considers God as separate from him in framing his question.

It is sometimes said in the Indian philosophy that the divisions of time–space are part of अनात्मा i. e. unspiritual substance. The spiritual substance knows no divisions. Then we come to two elements viz. आत्मा (Spiritual) and अनात्मा (Unspiritual). But why two and not more nor less? That is again a question or space and cannot be solved unless the question of space is solved. The question of time also demands our attention as motion also appears in the creation. Motion is chiefly due to the conscious passage of time in an observer. When this fact is taken into consideration, we come at–once to दृष्टि–सृष्टिवाद् i. e. there is no creation without an observer. This turn of the Indian Philosophy agrees perfectly with the latest discoveries of the modern science. But what about time and space? This question has been admirably solved by the author of the famous philosophical work Yoga Vasistha. The following quotations from Yoga Vasistha will help the reader in this matter. Vasistha says to Rama:–

"Time and space are thoughts. It is upon thoughts that their existence depends (3–110–59). Just as the appearace of the world is a thought appearance, so also is the appearance of the moments and ages (3–20–29). A moment, is, without any doubt, experienced as a kalpa (a cyclic period) when consciousness of a kalpa is experienced in it; similarly, a kalpa period is experienced as a moment if the consciousness of a moment is present in it (3–60–21). The same period of a night is experienced as a kalpa by the miserable and as a moment by the happy. In dream, a moment is experienced as a kalpa and a kalpa is passed as a moment (3–60–22). Time Space order is dependent on mind. Mind can experience a moment as a kalpa and vice-versa within itself (3–103–14). What is a life time to Manu is an hour to Brahma, what is a life-time to Brahma is a day to Vishnu and what is a life-time to Vishnu is a day to Shiva. He whose mind is lost in meditation experiences neither day nor night. (3–60–25–26). A day passes as a year for those who are separated from their beloved (3–20–51). The whole world-process occurs within a millionth portion of a moment of the consciousness of the self (3–61–171). The extent of the same world process may be a moment for some and a long age for another being. As a person experiencing a dream has the experience of stability so has the person experiencing the world-process (6a–61–29).

The above conclusions reached by the Indian philosophers hundreds of years ago are now proved to be correct by the Science of Relativity. Prof. Einstein has now shown that in physics Time and Space are purely relative to the observer. The physical space is now recognised as something definitely dependent on the limitations of our sense perceptions. Time, distance, volume. are all relative to the frames of reference. This means also that the six elements taken as अनादि (without beginning) must belong to a world without observer i. e. अज्ञात सत्ता or व्यवहारिक सत्ता or सृष्टि-दृष्टिवाद. Even the existence of two independent elements (as in the Sankhya philosophy) or three elements (as in the Yoga philosophy) belong to the theory of creation i. e. सृष्टि-दृष्टिवाद.

It is stated in the Yoga Vasistha (3-55-61) that one does not know anything but the contents of one's own consciousness. Just as the soldiers' dreams of the battlefields arise in their own minds separately so is the experience of this world for each individual. (4-17-27). Besides, the wonder is that there are not may individuals. One does not know anything but the contents of one's own consciousness i. e. one man cannot know the contents of the consciousness of another man completely. As in dream, so in the waking condition. In order to recognise the existence of another, we must first be able to ascertain as who has created the space between two persons.

One small mistake is also perceived in some of the Sanskrit philosophical works where it is said that the Universe is the vivarta (aspect) of Brahman and change (परिणाम) of ignorance (अविद्या). Vivart means no change and parinam means change. The two cannot exist together. Ignorance (अविद्या) cannot be placed before creation. That would mean a causual link which requires a uniform time. Therefore the Universe as seen by any one observer can only be placed simultaneously with his consciousness, not before. The question as to what was before creation is absurd. Creation cannot be considered apart from some body's consciousness and that body's conscious passage of time becomes the measure of time for the creation which he perceives.

If a universe without an observer is taken into consideration we shall have to go to a negative time.

It is stated in the Yoga Vasistha that the reality with all its aspects is always present everywhere in its entirety (68–63–28). On account of the all powerful reality being present everywhere, any of its potencies can be manifested anywhere, provided there is a sufficiently strong stir (3–52–43). To obtain the required stir, one must have regular meditative study अभ्यास and detachment from worldly pleasures वैराग्य. One cannot transcend his system unless he attends to these principles. By cultivating these two habits, he will become a spiritualised man, and will exhibit a new quality of life. His self will become as wide as the world itself, and he will feel that one spirit or his own spirit is present in all minds, lives and bodies. When the mind becomes of the pure satwic nature, whatever it affirmst akes place without fail and within the time which it affirms with strong faith, A man gets what he wants when all of him is in his wish. But it is difficult to acquire such wholeness and put it in practice. It requires the transcendence of all time–space divisions.

Ordinarily life is subject to time-space divisions and is seldom experienced as wholeness.

As there is a physical gravitation, so there is a psychological gravitation.

The objective world in space and time represents merely a state or condition of a mind which does not exist except for a being in that condition. Whatever arrests the knowledge of the spirit is evil. Space-time is not the frame work of the world of nature but of the world of our sense perception. Therefore, when we talk about human history, we get only a relative history. Just as animals take their percepts to be their physical world, so also men take their percepts to be their physical world. To some extent, each living being dreams his own dream and the work of disentanglement of the dream element in our concepts is no easy matter.

Sociology and politics believe in change and progress to which there is no stop. But what is an observed change or what is the measure of an observed change? why Indian writers of the past have not given dates for several important events? It is proved in the Yoga Vasistha that an event can have many dates as seen from different stand-points. This will be clear from the examples given from the Yoga Vasistha in this book. Therefore every man lives in his own individual history and his own individual geography. But when many persons gather together and make a common subject, it is difficult to find out their mistake. True history is the struggle of a man or nation for liberation from ignorance and immorality. We want such reforms as would put an end to all reforms. We want a knowledge that would take us to the end of all knowledge. When we think about any event, we place ourselves mentally at a certain place and in a certain time. This is not a true place nor a true time but a mere relation.

As time is a fiction, there is no objective past and there is no objective future. What one man remembers is his own (subjective) past. If he does not come across the year 2000, that year and the events therein will not exist for him. Even at present, the events appearing in the newspapers do not exist for those who do not read them. We are laying eggs for future events by attending to present and past events. This is the reason for continuity of the world. There is no escape from this drama, except through right observation and right thinking. A historical mind will not be able to understand the relativity of time and space. Only spiritual mind can understand and go beyond these two. Sages are the true guardians of all that is of permanent value in the cultural expressions of the human race. They recognise no geopraphical divisions. Their teachings give right direction to the human civilisation. Therefore Government should give assistance to the work of the sages. All the great religious teachers of the world have given importance not to history or geography but to the subjective unity in the apparent division. We shall never be able to realise the higher depths of our true life so long as we make a division between one nation and another. It is difficult to remove lies and falsehoods from the world, if the people love them. Values of variables are determined by the system of co-ordinates used. The dropping of the ego has been accepted as a necessary condition in the higher kind of knowledge, in the highest kind of devotion, and in the self-less works of service. There is no permanent settlement except in the eternal spiritual truth. Without a spiritual view strong enough to be the basis of civilisation, there will be no integration. A true sage shows the future in the present and removes all distinctions. Indian sages have shown a stage where no further reforms are necessary. It is a stage where all histories and all geographies are transcended.

It is very significant that Kansa कंस is called the cycle of time; Bhagvat (10-1-68) and he is killed by Lord Shri Krishna at the time when the different observers felt that they were living in दृष्टि-सृष्टि i. e. in a system created by an observer, Bhagvat (10-43-17). Modern Science also says that observer No. 1 is the centre of the distribution of the particles of his system, in his own view, but if he moves his head-quarters to any other observer, No. 2 a member of the system, then it again appears to be distributed with spherical symmetry round observer No. 2, and with density increasing outwards from observer No 2. There is a natural origin of time T equal to O, at which the system appears to have come into existence at the original observer. But this origin may equally be taken to be at any other member of the system. Every particle is in radially outward motion, relatively to every other with a speed proportional to the distance. This is a very important point, The idealised system of mutually separating particles has all the properties of infinite space.

A particle in it, no matter how fast it moves, can never reach its boundary because the radius of the boundary, reckoned from any arbitrary member of the system as centre is proportional to the time as reckoned by that member at the instant under consideration. Therefore, no meaning attaches to the question, "what was before creation?" or "what is outside the expanding sphere $r = ct$?" The system appears to create the space it needs; as in dream, so in the waking condition. To an observer inside the system, the system has all the properties of infinite space, for it is impossible to assume a velocity which will take the observer outside the system. The flow of time to any observer is irreversible, and the whole system is in fact irreversible.

But many a person is continuously talking about his own past, under the impression that if he does not do so, he will cease to exist. In order to exist he must have some past and some future to hold on. This forms his conscious passage of time. It is an essential feature of the theory of relativity that every equation in it makes explicit reference, by mention of the age T, reckoned from the natural origin of time, to the creation of the system in time. The natural zero of time is in fact the epoch of this creation. Every assertion about the contents of the system involves the mention of the age T and so takes note of the circumstance that the system was once created. As in dream, so in the waking condition.

The above conclusions reached by the modern science agree with the conclusions reached by the author of the Yoga Vasistha hundreds of years ago. As there cannot be any invarient relationship in the field of Maya or measure, death is necessary to enable an observer to change his system. If he wants to change his system before death, he must become a spiritualised man (a sage) by means of self knowledge. Both in thought and feeling, to realise the un-importance of :time is the gate of wisdom. We arrive at this conclusion by means of the highest Indian philosophy and by means of the latest physical science. This means that the present humanity will progress in culture only if it gives up geographical and historical divisions which are made by the mad political leaders of the past and present generations.

It is very difficult to recognise that our waking condition is a system in which the observer, his instrument of observation and the external world are all fused into events after events instead of into visions of objects following visions of other objects. Yet, this is a fact. It is proved not only by the highest Indian philosophy but by the latest science. The system of the waking condition is similar to someone changing his time by going by a motor car instead of by foot, or by going in a plane instead by an ordinary train. As the time changes, all the laws of the system undergo changes, for instance, waking condition destroys the dream condition completely and sleep destroys the waking condition completely. We must therefore, have schools and colleges where laws of a system should be taught instead of laws of objects seen. There will be no integral education unless we teach laws of a system. According to the Indian philosophy there are four systems as follows:—

1. Waking condition.
2. Dream condition.
3. Sound sleep.
4. Spiritual state or condition.

The laws of these four conditions have been clearly given in the Mandukya Upanishad which is considered as one of the best Upanishads.

In the basic education recently started, by the Congress Government, laws of the objective world and history and geography are taught as if time and space are fundamental. This is a great defect and will not give right observation and right thinking to the students. The highest Indian philosophy demands that the students should be taught laws of systems. This means that the students will have to learn Yoga Vasistha, Mandukya Upanishad and the theory of Relativity and to neglect all histories and geographies. This change in our education requires a bold experiment for which the rulers will have to take assistance from the advanced Sages of our world.

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Post Valad.
Ahmedabad Prantij Railway.
1-2-1951. (India)

Swami Madhavtirtha.

The Concept of time in Indian Philosophy.

When I was born, I did not know that I was born. Birth and death are mysterious events and have intimate relation with the concept of time. The real form of these events cannot be understood without cultivating the habit ot right observation and right thinking. When I was 12 years of age, one old person whom I knew intimately suddenly died and I began to question everyone whom I met as to where the dead man might have gone. Nobody gave me a satisfactory answer. At the age of 28 (in 1913) I met a wise and learned Swami who was then teaching Katha Upanishad to his disciples. In that Upanishad, there is a story in which Nachiketa has put the question to Yama (the God of death) as to where a dead man goes after his death. Yama has given him a long reply, but the substance of the whole discourse is contained in the following two stanzas:—

यदेवेह तदमुत्र यदमुत्र तदन्विह ।
मृत्योः स मृत्युमाप्नोति य इह नानेव पश्यति ॥
2-1-10.

i. e. What is here is there and what is there is here. Whoever sees difference or duality experiences the cycles of birth and death.

मनसैवेदमाप्तव्यन्नेह नानास्ति किञ्चन ।
मृत्योः स मृत्युं गच्छति य इह नानेव पश्यति ॥
2-1-11

i. e. This (all pervading spirit or Brahma) can be realised only by a (pure) mind. Here no differences exist. Whoever sees differences or duality experiences the cycles of birth and death.

But why do we see differences ?

The above Swami whom I had accepted as my Master said that this is all due to Maya. Vedanta philosophy replies that Maya appears to be true in one condition and is negated in another condition; for instance. dream condition destroys the waking condition completely and waking condition destroys the dream condition completely. But the question which appears to persist is that dream is destroyed at once and the same dream does not occur again but waking condition persists for a longer time and we see the same world daily after waking.

To enable me to solve this question, two events-happened in my life about the year 1920. I happened to read one Tantric book in which the meaning of Maya was given as " that by which events are measured." After some time, I happened to read one good English book viz "Tertium Organum" by P. D. Ouspensky in which the author had mentioned that the time-space measure on which the whole physics was based was then proved to be relative by Prof. Einstein. In both these books, the common element was the **nature of measure.** Besides time-space measure has intimate connection with:—

(1) Birth and death.
(2) Event of creation and dissolution of the world.
(3) Events of history.
(4) Events appearing in newspapers.
(5) Political events.
(6) Events narrated in all the religious books of the world.

For those persons who wish to know the results of my general research on the above subjects, I would suggest to them to read my following books:—

(1) Maya.
(2) Evolution and Relativity.
(3) Wonders of the time-space.

In this essay, I am concerned with the concept of time in the Indian Philosophy. The earliest and the best records in the Indian Philosophy are the Upanishads.

1. Concept of time in the Upanishads.

The Upanishads more or less deal with transcendance of time rather than with the nature of time. Besides the language of the Upanishads is very brief and it is difficult even for a good reader to grasp the real meaning of time and space. In the Mundak Upanishad it is stated (in Mantra 1—7) that the whole world is created from the Absolute, and in the Mandukya Upanishad, it is stated that whatever existed in the past, whatever exists now and whatever will exist in future is nothing but Om ॐ and what is beyond these three times is also Om ॐ. Such statements do not help us very much in grasping the nature of time.

But there is a good reliable and authoritative commentary on the Mandukya Upanishad by Shri Gaudapad. There he briefly describes in the following verse that time is relative:—

चित्तकाला हि येऽन्तस्तु द्वयकालाश्च ये बहिः ।
कल्पिता एव ते सर्वे, विशेषो नान्यहेतुकः ॥ २-१४.

i. e. mental events remain while the mental time remains and outward events remain during two times i. e. one event is measured by another event and vice versa but as a matter of fact all these events are relative. There is no difference between the two kinds of events. Shri Shankeracharya here gives a very useful illustration to explain what is meant by two times. Suppose, someone goes to a milk-man to bring milk. The milkman has not milked his cow and so he asks the person to wait till he can complete his milking work. The buyer says he will wait till he finishes his work. Here the time of the buyer is dependent on the time of milking the cow and the milkman's time is dependent on the former's time of waiting. Both the times are created from the events, and both are relative, depending on the nature of events. A further explanation is given by Shri Gaudapad (in a subsequent stanza) that in a dream, a man imagines that something exists in his mind and something exists outside his body. All the internal and external events depend on the nature of the dreamer's knowledge. Here we have to remember that a dream is not a dream at the time of dreaming, so that the dream-example can be easily applied to the waking state. In other words, in the waking condition, whatever events happen inside while thinking and whatever events happen outside in our practical life also depend on the consciousness of the passage of time of the waking person. The events themselves have no self-existent reality. This is the only place where the question of time has been clearly placed before us. In the commentary on the Mundak Upanishad, at one place, Shri Shankeracharya says कालः तु कर्माङ्गम् i. e. time is dependent on the nature of the event. In my small book "Evolution and relativity", I have discussed the nature of time from the point of view of the Theory of Relativity, which coincides very well with the view of Gaudapada mentioned above. On reading this book, Swami Tapovanji of Utter-Kashi (Himalayas) wrote to me as under "I am very much pleased to read your small book "Evolution and Relativity", you argue just like Gaudapada who is considered to be the great interpreter of अजातवाद (theory of non-creation), but all his arguments depend upon mere श्रुति (scriptures) and अनुमान (inferences); you argue strongly standing upon the rock of modern science; that is the difference. Therefore, I think your arguments will be more appreciated by the modern men. But what is the nature of the observer? Is it real? Is it eternal? Is it one or many? Why does it observe? These are the questions to be discussed in another book with the assistance of modern science". I think these questions can be answered satisfactorily only by combining the scientific researches of relativity with the Indian philosophy. An observer in the physical science is an embodied observer or a physical observer connected with a physical system. An observer in the psychological science is a psychological observer connected with a psychological system and an observer in philosophy depends on the knowledge he has about the system of reference selected for knowledge. Modern science and modern psychology are coming nearer to philosophy. *

---

* The above questions have been answered in Appendix 1 of my book "Wonders of the time space."

It is further stated in the Mandukya Karika as follows :

काल इति कालविदो, दिश इति च तद्विदः ।
2-24

यं भावं दर्शयेद्यस्य तं भावं स तु पश्यति ॥
2-29

i. e. Astrologers take time as a fundamental principle in creation, those who are following the science of space (स्वरोदय शास्त्र) consider that space is also a fundamental element in creation. The mind assumes the form selected by the observer. Sir James Jeans also writes (New Background of Science page 98) " When the individual space and time of any particular individual are welded together, the individual is found to drop out altogether. The constituents are subjective to a particular individual but the product is objective. " This is what happens in the dream-condition, and in the waking condition. Here the observer is called प्रमाता (limited observer) in the Indian philosophical language. To overcome these-limitations, the nature of observation will have to be changed. Right thinking and right observation will lead to salvation and then the observer will be free from the limitations of time and space. This absolute state is described as follows by Shri Gaudapada in the following verse :-

न निरोधो न चोत्पत्तिर्न बद्धो न च साधकः ।
न मुमुक्षुर्न वै मुक्त, इत्येषा परमार्थता ॥
2–32

i. e. From the absolute point of view, there is no dissolution, there is no creation, nobody is bound, there is no aspirant, no one is searching for salvation and no one is liberated.

When I asked Shri Raman Maharshi about creation, he also made the above statement. Modern science has also come to the same conclusion. The only events which an observer actually experiences are events at himself. When this fact will be properly realised, all our social and political theories will be fundamentally altered.

Everything depends on what an observer sees. Therefore almost in all the Upanishads, attempts have been made to enable the observer to give his observations the support of right knowledge. Right knowledge enables the observer to overcome the limitations of time and space. Besides, there are not many observers. In order to experience the existence of many observers, there should be fundamental space to separate them.

As space is derivative, there is only one observer. As in dream, so in the waking condition.

The major religions of Western or Middle Eastern origin are Judaism, Christianity and

Mahomedanism. They have a divinely inspired prophet without whom one cannot be saved.

All these theistic religions affirm that the determinate personality can be made immortal. The Indian philosophy (as given by the sages in the Upanishads) maintains that nothing determinate i. e. definite in character is immortal. All determinate things are transitory. Therefore, the nature of the Absolute is not describable by any determinate properties whatever. Indian philosophy identifies the Divine with a timeless factor.

2. Concept of time in Gita.

In the great war viz: Mahabharat, Arjun requested Shri Krishna to place his chariot in such a position that he might be able to see the armies of both the sides. When this was done, he saw that so many persons would be killed in the battle for the sake of a piece of land and began to tremble and said to Shri Krishna that he did not like to fight. The persons who had gathered there for the battle were relatives and friends of Shri Krishna also, but Shri Krishna saw the coming events with a different knowledge. In his vision, time was unimportant. He wanted Arjun to change the nature of his observation and said :–

न जायते म्रियते वा कदाचिन्नायं भूत्वा भविता वा न भूयः।
अजो नित्यः शाश्वतोऽयं पुराणो न हन्यते हन्यमाने शरीरे॥

i. e, The soul is neither born nor does it die. It does not come in existence at the time of birth and does not cease to exist when killed in a battle. It is eternal and unborn.

Here an attempt is made by the Lord (Shri Krishna) to change the nature of observation. When the observation is changed, time cannot remain as before. When the personality shifts, time does not mean the same thing. The question of time depends on the relation-ship which holds between a human observer and his finite level. This relationship is not true. If the relationship can be changed as stated in the above stanza, time-space order will admit of a great degree of interpenetration.

Modern psychologists have also come to the conclusion that the process which we call death of the organism is really the degradation of the pattern of relationships holding amongst a favoured group of entia from one of a less external to one of a more external type. The geometry of time and space is relative.

Several persons are raising the question as to why does an observer observe what he does observe. This question cannot be solved unless we know how does he observe what he does observe. To measure a length, he must say what he means by two points at the same time. For this he requires a definition of distance–simultaneity. To measure a time, he must say what he means by two events at the same place viz. in his individual consciousness.

Lord Shree Krishna not only gave spiritual instructions to Arjun but (as stated in the 11th. Chapter of the Gita) gave a new power of observation, by which Arjun saw that the whole universe with its innumerable forms existed as one whole being. In this vision, Arjun said, he saw नान्तं न मध्यं न पुनस्तवादिं (11–16) neither the end, nor middle, nor beginning of anything. Besides he said दिशो न जाने, i. e. there is no fundamental space (11–25). This is exactly what Einstein has proved in 1905 by mathematics where he says that the structure of space is not determined unless the functions of the coordinates are known. Therefore what we see is not important. How we see what we do see is the main question. Therefore the Lord advises Arjun not to look to the result of his action but to correct the method of acting by right thinking and right observation. The functions of time and space have infinite number of dimensions. When the fuller meaning of the relativity of time and space will be grasped, it will provide a conception so deep and all embracing that it will change the whole of our basic conceptions at the root and will reveal a universe of undreamt of proportions. Its practical effect on the problems of human life will be incalculable.

In the fourth chapter of the Gita, the Lord tells Arjun that he gave the new method of observation to Vivaswan (the sun-god). Arjun replied "But you are born now and Vivaswan was born in the beginning of creation. How then was it possible for you to give a new vision to Vivaswan". Lord Shri Krishna said, "I have had many births and you also had many births; I know them all, but you cannot know owing to the limitation of your power of observation; my birth and my actions are all Divine, i. e. based on new method of observation". Here Arjun raises a question as to whether it is necessary to renounce the worldly activities. The Lord replies:- "In any case, events (कर्म) will remain. The chief work to be done is to put the observer in the right position, and to correct his instrument of observation." If the observer is attached to his time-space measure (as in the dream condition), there will be no real individual. Therefore, detachment from all events is the right condition for progress. We all want perfectness or wholeness or associateness, but the power to associate is intimately connected with power to transcend. (गुणातीत अवस्था). The Lord says that the cycle of birth and death brings innumerable pains. Only he who attains to my stage will be delivered from them. (8-15). Even if a man obtains the Brahma's stage, he will have to come back because Brahma (ब्रह्मा) is also subject to time (8--16). His method of observation creates a new time for him, yet he remains subject to birth and death. But to those who are absolutely devoted to me, I give new power of knowledge (बुद्धि योग) whereby they come to me. अहमादिश्च मध्यं च भूतानामन्तमेवच ॥ I am in the beginning, in the middle and in the end of all living beings. (10--20)." This principle applies to every observer. Space is not a physical attribute of the universe but is a mode of description of the phenomena which is at the disposal of the observer. It is also an essential feature of the kinematic relativity that every equation in it makes explicit reference, by mention of the age reckoned from the natural origin of time to the creation of the system in time. The natural zero of time is in fact the epoch of the creation. Every assertion about the contents of the system involves the mention of this age T and so takes note of the circumstance that the system was once created. As in dream, so in the waking condition. Each fundamental particle (जीव) is the centre of symmetry of all the remainder, in its own frame of-reference, and he can describe the whole system as if he was present in the beginning, middle and end of that system. As in dream so in the waking condition. Until we know which scale of time is being used in any given context, it is impossible to give a clear meaning to any assertion involving time.

In the eleventh chapter the Lord says that I am the time कालोऽस्मि (11-30). This means that when an observer creates new time, he will observe a new-creation. This means also that the previous creation as seen by the previous time must go. As in dream, so in the waking condition. This means also that time comes from the observer and if Arjun changes his method of observation, he will observe as if all the warriors are already dead. This means giving up all previous mental, vital and physical habits. When a new habit is formed, it will create a new field (क्षेत्र) with new time, new space and a new vision of the world. Then there will be new laws according to the nature of the field. This field is neither true nor false (13-12). Therefore the field must be transcended by attending to the knower of the field (क्षेत्रज्ञ). Field laws are given in the thirteenth chapter of the Gita and the method of transcendence of the field laws is given in the fourteenth chapter there.

If the universe was created so that time runs from the epoch of creation, then it must be concluded also that the universe was created as a point-singularity. This is in accordance with what the Lord Shri Krishna says "यदा भूतपृथग्भावमेकस्थमनुपश्यति, तत एव च विस्तारं ब्रह्म संपद्यते तदा।

(13-30) i. e. when the observer sees that all has come from and has remained in the one and all is the spreading of the observations of the One, he attains the state of right observation. As time is not

fundamental, this field or संसार has no real beginning nor real end न रूपमस्येह तथोपलभ्यते नान्तो न चादि र्न च संप्रतिष्ठा ।

(15--2)

3. Concept of time in the Brahma Sutras.

Brahmasutras are based on the philosophy of the Upanishads. As the question of time is left indefinite in the Upanishads, in the Brahma sutras also, it is in the same position. In many sutras the fifth case विभक्ति is used, thus indicating that something has come from something else, yet the origin of time has not been clearly stated. Several reasons have been given to show that everything which exists now, which existed before and which exist in future is nothing but the Absolute. With regard to creation, it is stated in the fifth Sutra ईक्षतेर्नाशब्दम् i. e. inert nature is not the cause of universe because it has no power of observation. Therefore, the Absolute Brahma is the only cause, because it has the power of observation. This statement is made on the basis of what is said in the Upanishads. The present science of Relativity comes to the same conclusion by actual observational experiments. This means that a world-system has no size until an observer and an epoch in his experience are specified This law possesses the amazing and unexpected property that if we re-graduate the individual observer's clock in a suitable fashion, and alter all derived measures like lengths ni the way implied by this regraduation, the law of motion will transform itself into the law of constancy of velocity. Man can control the extent of this simplicity by his choice of the scale of time. Once this is fixed, the forms of laws appear determinate.

In the Brahmsutras, real change or परिणामवाद has been negated on the basis of what is stated in the Upanishads, but the question of time does not appear to have been keenly taken up for inquiry. In the second chapter (2–1–12. 36) it has been stated that the world has no real beginning अनादि, yet it is proved on the basis of the श्रुति (scriptures) and not on the basis of the relativity of time. The emphasis in the Brahma sutras is laid on correcting the knowledge of division (द्वैतज्ञान) and the cause of this knowledge is given as ignorance. Space and time are both shown to be products of ignorance अविद्या but no further explanation is forthcoming. It is stated in the last part of the Brahma Sutras that God can create any world or all the worlds, but a liberated soul cannot create anything. This shows that the question of time has not been properly considered therein. In the Upanishads also, some times, the creation has been said to have come from ether आकाश; sometimes from the sun, sometimes from God and it is even stated, for instance in the Mandukya, that there is no real creation. The ancient Rishis were not interested in the creation or in the cause of the creation but in the one Absolute, independent spiritual existence. They affirmed without doubt that by knowing the one, everything else is known. Just as by knowing the clay, all the clay materials are known, by knowing the iron, all the things made of iron are known, so all the events of the universe are nothing but various aspects of the one spiritual substance. As this knowledge was found to be sufficient for salvation, no further enquiry was found to be necessary as to how time and space were created.

Shri Shankeracharya says in the introduction of the Brahma Sutras that ignorance or अध्यास is स्मृतिरूप; i. e. memory of past events is ignorance. This is due to the present condition of knowledge as influenced by past events. But what is the meaning of past events ? There is no fundamental past time. What is future to one observer is past for another observer. Jinna's death was a future event for Mahatma Gandhi and is a past event for those who are living now. There is no time unless an observer is brought and then also time depends on the observer's consciousness of the passage of time. Therefore, memory of past events creates several erroneous judgments.

4. Time in Nyaya, Vaisheshic and Sankhya Philosophy.

In these three darshanas, (methods of observation) time is considered as a fundamental independent factor. Its beginning comes from Tamasic ego or inertia. But before the ego appears, there is cosmic intelligence महत्तत्व and before the cosmic inteligence, there is the original nature मूल प्रकृति. When there is change in the original nature, cosmic intelligence is the first result, and when there is change in the cosmic intelligence, ego comes in existence.

For this process, there must be time in the original nature i. e. मूलप्रकृति, otherwise no change can take place there, therefore, their idea of placing time in the beginning of the Tamasic ego (inertia) cannot be maintained.

According to modern science, a whole coordinate system is called an inertial system or in other words a coordinate system that is moving uniformly and in a straight line relating to another inertial system is likewise an inertial system. This means that the properties of the space-time continuum which determine inertia must be regarded as field properties of space,

5. Concept of time in the Yoga Darshan of Patanjali.

In this philosophy, the nature of time is mentioned in the following Sutra.:—

क्षण तत्क्रमयोः संयमाद् विवेकजं ज्ञानम्.

3-52

i. e. if anyone concentrates on the moment and the succession, he acquires right discrimination.

There are two authoritative commentaries of Vyas and Vachaspati, on this yoga darshan. They give the following explanation. The smallest time which cannot be further divided is called the moment क्षण or when any particle leaves one place and acquires another place, the interval is called the moment. An unbroken flow of such moments is called succession. Succession is not true but imaginary because all moments cannot be confined in one time (as every moment is a time by itself). Succession being false, other combinations of times like minute, hour, day, month, etc. are also false.

In other words, the moment appears as different times. There is no time apart from the moment. Therefore only the moment is the true time.

In this philosophy also time is taken as a fundamental reality.

According to modern science, to speak of the simultaneity of two events has no meaning, except in relation to a given coordinate system. The shape of measuring devices and the speed at which clocks move depend on their state of motion with respect to the co-ordinate system.

6. The concept of time in Shrimad Bhagwat.

Bhagwat is considered to be one of the best philosophical works in India. In its introduction, there is a dialogue between four Sanatkumars who remain together and who do not grow old) and Narad. The cause of their not growing old is given below:-

हरिशरणमेव हि नित्यं येषां मुखे वचः ।
अतः कालसमादिष्टा जरा युष्मान्नबाधते ॥
माहात्म्य
2-48.

i. e. Narad says to Sanatkumar:-as you are continuously reciting the words, "we surrender to God," old age due to time does not have any effect on you. This means that time can be changed by transferring our attention from the temporary embodied self to the eternal disembodied supreme spirit. But what is time itself has not been clearly stated. At several places, creation of the world has been narrated on the lines of the Sankhya philosophy and then suddenly the whole creation is negated, on the lines of the Vedant philosophy as if everything is a super-imposition (1-3-31). The main object of the Bhagwat philosophy is to give salvation to king Parikshit in seven days. This cannot be done if time-space Maya be real and fundamental. The age of the creator of the world (ब्रह्मा) is considered to be 100 years, by his own measure; of this 50 years have already passed. The present period is the first day of the second half of his life (Bhagwat 3-11-32-33). In one day of that creator there are 1000 Chaturyugas. One Chaturyuga is equal to 4,432,000/-human years. This is arrived at as follows. 360 days of a man is equal to one human year and this is equal to one day of Deva. The western world considers :that a human year is equal to 365 days. The Indian Calendar increases one month at intervals. 1200 years of Deva are equal to Kaliyuga, 2400 years of Deva are equal to Dwapar Yuga, 3600 years of Deva are equal to Treta Yuga and 4800 years of Deva are equal to Satyuga.

This means that one Chaturyuga is equal to 12000 Deva years and this is equal to 43,20,000 human years. When this is multiplied by 1000, it becomes Brahma's (Creator's day), i. e. Brahma's day is equal to 4,320000,000 human years. Besides, Brahma's 1000 Yugas are equal to a moment of Vishnu and Vishnu's 1206,000 moments are equal to 1/2 moment of Rudra. When this time is taken as an objective way, Indian concept of time goes back to the most earliest period as compared with other cultures of the world.

From the subjective point of view if Rudra's time, Vishnu's time, Brahma's time, Deva's time and human time are different, they cannot speak with one another. Just as a waking person cannot speak with a dream person because their times are different and animals cannot speak with men because their time-orders are different so a man cannot have any talks with Vishnu. But in the Puranas, those having different time orders have been allowed to talk with one another. If Manu's time order is different from the time order of Brahma, Manu cannot be the son of Brahma. When the Supreme spirit, gives vision to his devotees and talks to him, the former assumes the time of the devotee but he cannot remain there for a longer period because he has a life of a different time order.

The present Republic Government of India has adopted the Christian calendar in order to have the convenience of correspondence with the foreign countries. In the Indian history, as written by the British Rulers and as is still being taught in our high Schools, Akbar. ruled India from 1556 to 1605. But Akbar himself did not know anything about these years, as the Christian calendar did not exist in his time.

Originally the Christian calendar consisted of 360 days. They may have adopted this from the Oriental calender. It is also possible that the Western world may have adopted the seven days viz. Sunday, Monday & c. from the Indian calendar. After the beginning of the Roman Empire, the Roman Emperor Julius Caser raised the Christian year to 364¼ days. In the Sixth Century. Dionisus made some improvement in this but as it resulted in a difference of 11 days, in 1739, Pope gave an order in that year that 3rd September should be called 14th September and February should have 29 days when the current year can be divided by 4. Also that the year should begin with January. This order was immediately accepted by Italy, Denmark and Holland. Germany and Switzerland accepted it in 1759, England in 1859, Ireland in 1639, Russia in 1859, India accepted this calendar in the beginning of the British rule.

Some of the Indian Astrologers say that even in the present Christian calendar, there is a small mistake according to the measure of the sun's motion and that after 3600 years there will be a difference of one day.

The main question is "what is a true time and a true day? Why should we take the solar day as the only correct day, by sitting at one place on the earth? "

At some places in the Bhagwat it is stated that time has come out of God (2–5–21) and (3–6–2). At other places, it is stated that time does not exist in God (2–2–17) and (2–9–10). This means that the original composer of Bhagwat is not quite sure about the nature of time. But his predecessor, the sage Valmiki makes very clear statement about time in the Yoga Vasistha as mentioned in section 7 below. It is, however, stated in the Bhagwat, (2-6-36) that all living beings having been influenced by the Maya of God observe the world according to one's own particular view-point. This indicates that there is relativity in our knowledge about the world.

In canto 3, chapter 7, Vidur raises a question before the sage Maitraya, as to how the Absolute God who is beyond time-space and causation and whose knowledge does not undergo any change assumes any relation with Maya or measure, and why should one man be happy and another miserable in a creation projected by the all wise and blissful God? To this, the sage Maitraya replies that all this is due to Maya. As in dream, so in the waking condition. The nature of Maya is such that although it does appear to be true in one state, it is totally removed in another state. In Europe one writer, Hamlet, in his study of Spinoza has made a similar statement about time. He says that there is no objection in accepting the reality of time without losing sight of its supersession in some rare forms of experience. A statement about time appears in canto 3, chapter 11 of Bhagwat. It begins with one Truti which is equal to the time taken by the Sun's light in passing three molecules (अणु), each molecule consisting of three atoms (परमाणु). On this basis further combinations of time have been arranged. This is in connection with the outward time. But it is also stated that the time which is spread in a fundamental particle अणु is equal to that particle. Further combinations of time such as ghadi, prahar, day, paksha, month and yuga are based on this original time. The question is why we all experience same laws about time and yet why the dream time (which is then considered to be the right time) is immediately negated in the waking condition and vice versa. Even in the waking condition, if a star is at a distance whence light takes years to come, while it takes minutes to come from the sun, a sequence of changes affecting both bodies may appear to one person to have been completed in the sun before it begins on the star, but to an observer on any planet which might be associated with the star, the contrary might be true. Relativity of time is a problem in the theory of knowledge as well as in physics. Bhagwat does not throw more light on the relativity of time. Only in the last Canto No. 12 it is stated that Yugas or cycles of time are not true. When evil nature begins in a man, then Kali Yuga or a particular cycle of time begins in him.

Therefore time is not fundamental. It is formless, yet makes an appearance when some motion takes place in the nature "मूलप्रकृति". This is clearly stated in the following stanza:-

गुण व्यतिकराकारो निर्विशेषोऽप्रतिष्ठितः ।
पुरुषस्तदुपादानमात्मानं लीलयासृजत् ॥
3-10-11.

i. e. That which appears as a change in the original nature as cosmic intelligence but which has no form or substance is time. By that means God creates himself as the world.

In the fifth Canto, there is a story of the creation of seven worlds by the movement of the Sun's chariot. Each world is called a cycle of time. Time is formed by the movement of the sun but no further explanation is given. The history and geography given here have nothing in common with the history and geography that we know in schools and colleges.

A wonderful story about time is given in Canto 9, Chapter 3. as follows:-

A king Revat had a daughter by name Revti. When she became young, the king went, to the world of Brahma (Creator) to ask him to whom his daughter should be married, At that time in the court of Brahma, singing and dancing were going on. Therefore, the king had to wait there for a short while. When the dancing and singing were over, the king asked Brahma to which king his daughter should be married. Brahma said. " During the short time that you are here, several Yugas (ages) have passed in your world and all the kings that you had seen are dead. Now a new cycle of time युग has commenced and Balaram who is a form of

God has taken birth; you should therefore give your daughter to Balaram in marriage. The king followed the advice of Brahma.

This means that every world has its own time, yet time is considered as an objective reality for the persons living in the same world. No explanation is given here why time should be different in different worlds.

In canto 10, while introducing the King Kansa, (Shukadev says to Parikshit) that he was Kalanemi (cycle of time) in his previous birth (10-2-68). He had great enmity towards God Vishnu and his followers, therefore he sent several of his evil-minded servants to kill Krishna and his followers, but they all failed and Kansa was finally killed by Krishna. This means, in other words, that Krishna had victory over time.

When the followers of Krishna (the Gopies) wanted salvation by his grace, Krishna gave hem some spiritual experience and then disappeared. The Gopies began to weep with a view to meet Krishna again. While weeping, they have said त्रुटि युगायते त्वामपश्यताम् i. e. one moment appears like Yuga to us i. e. a great cycle of time, when we do not see you; in other words every man feels the burden of time in the absence of God. When God is realised as one's own self, there is immeasurable happiness and time loses all its force. Bhagwat is more or less a scripture for showing means of supreme happiness rather than for dealing with the philosophy of time–space and creation. But the supreme happiness cannot be obtained unless one is able to overcome the tyrrany of time or the mythological Kansa. Time depends on the nature of observation. This is now proved by science by mathematics. In order to show that the same world and the same man can appear in various forms from various points of view, the following version about Krishna is given (10–43–17) shortly before he killed Kansa (the time–cycle):–

मल्लानामशनिर्नृणां नरवरः
स्त्रीणां स्मरो मूर्तिमान्
गोपानां स्वजनोऽसतां क्षितिभुजां
शास्ता स्वपित्रोः शिशुः ।
मृत्युर्भोजपतेर्विराडविदुषां
तत्त्वं परं योगिनां
वृष्णीनां परदेवतेति विदितो
रङ्ग गतः साग्रजः ॥

This means that Lord Krishna appeared in nine different forms to nine kinds of observers. To Kansa (the cycle of time) he appears as the God of Death. This means also that in the human life there is relativity of observation and therefore relativity of time.

This means also that time can be conquered only when the method of observation (दृष्टि-सृष्टिवाद)

is properly understood. After killing Kansa, Shri Krishna has gone to Ujjain for further study. There, he has learnt Vedant (Upanishad). Then he sends a message with his devotee Uddhava to other devotees (i.e. Gopees) to the effect that he has neither birth nor death, neither father nor mother (10–48–38). As a man moving fast in a circle, sees the earth as moving, so owing to the motion of the mind, the soul appears to be moving (10–46–41).

The descriptions of individual examples of motion will be simpler or more complicated according to the frames of reference chosen, There is no natural uniform scale of time because we cannot say what we mean by the word uniform in relation to time. We cannot catch the fleeting minute and put it alongside a later minute. Therefore, killing of Kansa (the cycle of time (कालनेमि) was the the principal work of Krishna in his early life.

Lord Krishna had also stated in the message to the Gopees that there was no separation between them (10–47–29). It is through Maya (a kind of time-space measure) that I create the worlds, preserve it for some time and then dissolve it. Therefore every one should get rid of his ignorance and consider himself as immortal. Birth and death are felt owing to attachment to the body but the body is Upadhi, a relative thing, which disappears in sleep. Dream time and waking time are also different. Therefore, one should try to remain in the spiritual state which is beyond waking, dream and sound sleep. When power to transcend time is acquired, it is easy to merge oneself in the Absolute, therefore the remaining part of Bhagwat (especially from 10-87) is devoted to the realisation of the Absolute. This means absolute renunciation of the sensate culture. Space–time is not the frame–work of the world of nature, but of the world of our sense perception. Time cannot exist without events and events cannot exist without an observer. What we see as objective time does not really exist, Therefore our clocks are called time–pieces.

In the beginning of the 10th Canto (10–1–7) it is stated अन्तर्बहिः पुरुष कालरूपैः i. e. God is giving life to all beings by remaining inside the body and is killing all beings by assuming the form of time outside the body. This means that those who look to only outside things will feel the effect of time. As stated above after killing Kansa (the cycle of time), Krishna shows a knowledge equal to the Vivartvada of the Vedant philosophy. This is highly significant.

In the 11th Canto of Bhagwat, the key for time transcendance has been given by describing the experience of the three states viz, waking, dream and sound sleep. God is not in evolution. He does not progress as the world progresses. It is our attitude to the external world which should be modified, not the external world, Appearances are peculiar to each perspective i. e. an appearance is owned by its perspective and this ownership cannot be shared by other persons in all respects.

In the 12th Canto of Bhagwat, four kinds of dissolution of the world are given as follows:—

1. नित्य प्रलय i. e. everything appears changing at every moment.

2. नैमित्तिक प्रलय i.e. when the creator Brahma's age will be completed, he will cease to observe his world. Then the three worlds will disappear.

3. प्राकृत प्रलय This will take place when all the creators of all the different worlds will be dissolved in the one original nature. This refers to the Sankhya method.

4. आत्यन्तिक प्रलय This is equal to salvation from all false observations. This can take place even now by carefully studying the experiences of the waking, dream and sound sleep. Here one state is absolutely negated in another state, for instance, waking condition destroys the dream completely and vice versa. Time can also be transcended by carefully studying the new aspects of the Theory of Relativity.

When Shukadeva met king Parikshit, the latter's first question was how death can be conquered in seven days, as the life of Parikshit was to last only for seven days. The first reply of Shukadev was that Parikshit should continuously remember God, so that at the end of his life, he may have only one idea in his mind. Finally Shukadeva replies to Parikshit that you should give up the animal–like idea that you are to die; as a matter of fact you are not born and you will not die, but only body dies. Here death has been conquered by transccending the time–sensation.

As there is a geometry of space, so there is a geometry of time. This is partly experienced in the Astrologer's horoscope, in a dream condition and sometimes in the waking condition when a man is absorbed in deep thinking, A man's age cannot be measured by the number of birth days. Biological time, mental time and the time of the soul are not the same as clock time. Creative imagination is to a great extent ageless. If a man concentrates on his soul, which is always young, he will stay young according to the intensity of his concentration. It is never too late to acquire this wisdom. The only thing to be done is to keep the spirit awake with a view to change the geometry of time.

In the present generation many persons keep themselves awake in sensual matters and lie dormant towards spirit. Many events in their lives have acquired more speed. Many persons are put to great inconvenienience owing to the stoppage of the delivery of postal letters on Sundays. About 200 years back, when there was no postal system, life was moving at less speed and that measure was found to be convenient at that time. The present day average labourer enjoys more pleasures and conveniences, by way of cinemas, radios, railways, post etc., than the Moghul Emperor Akbar and yet the labourer is not more happy in the integral sense. The human world is not an object to be seen, but an event to be understood. Those who have based their time on a larger number of observations and noises cannot pass their time if they have less number of noises.

Ordinary man of every generation creates his world by observations and by various kinds of speeches and noises and finds himself as part of that world of his imagination. He cannot go beyond his world as his world is created by him and he is created by his world. This leads to disintegrative education, as he cannot harmonise different points of view. There is no real change in anything, because both the man and his world are aspects of his mind. The conscious passage of time for every man in every generation is different, but the existing society compels a man to accept some uniform time. This condition leads a man from one error to another error. Present man has no time to put his pen-holder in his ink-pot; therefore he invented a fountain pen and as he has no time to sharpen his pencil, he invented a lead-holder–pencil. He wants to save time, but time does not save him. In creating his world, he creates himself also. As in dream, so in the waking condition.

The only way for salvation from this erroneous drama is to conquer time and space by right observation and right thinking.

In canto 11 chapter 24 of Shri Bhagwat, it is stated that the universe will last so long as God will observe it or so long as the events or Karmas of the Jivas (individuals) will continue. The present science also says that the world of the individual will last so long as the observations of the individual will last. Man is the centre of his distributed universe. As in dream, so in the waking condition.

It is also stated in stanzas 53 to 56 of Chapter 22 of Canto 11 of Shri Bhagwat that :—

(a) Just as by the motion of the water, the trees reflected therein appear to be moving;

(b) Just as by moving oneself round on a spot, the eyes get an illusion as if the world around is moving;

(c) Just as the mental events in the day–dreams and night–dreams are illusive;

so this world as perceived by the soul is illusive.

Although the world does not really exist, it will not cease to exist so long as a man imagines it as existing. This will give pains also in the same way as a dream world gives pains to the person who imagines it as self–existing. Therefore one should give up erroneous enjoyment of sensual pleasures. The world does not exist and its appearance is due to the ignorance of the self. As in dream so in the waking condition (11–22–56), The theory of relativity has also proved by Mathematics that what we observe is not the world. This theory has opened the interesting possiblity of alternative time–scales for judging the same set of events. Temporal and spatial notions inter–changeable in Geometry are also interchangeable in epistemology or even in metaphysics. This will be made clear from the following illustrations which are taken from Indian philosophy.

7. The concept of time in the Yoga Vasistha.

This is the only philosophical work in India in which the concept of time is made sufficiently clear. This agrees remarkably with the latest discoveris of the modern science. In order to know the nature of time, we have first to find out what is the interval between two events. This is explained in the following three stories in the Yoga Vashistha:

(1) The story of Brahman Gadhi who wanted to see the Maya of the Lord.

(2) The story of Lila and her husband king Padma.

(3) The story of king Lavan.

The above stories may or may not be historical facts but the concept of time conveyed therein is wonderful. Several persons find it difficult to harmonise the time experiences given therein with the time experiences which we observe. The description of events in the above stories is very long but it is very briefly stated here with a view to make clear the sense of time.

(1) Time experiences of Gadhi:

One Brahman by name Gadhi was doing some penance in a forest with a view to see Lord Vishnu and to know his maya. Once Vishnu appeared before him. Gadhi asked him to show him his maya. The Lord promised that one day he would see it and then leave it.

Once when Gadhi was having a dip in a lake, he forgot his Mantras and his present life. He began to see new things. He saw a new life as if he went to his house, found himself old and then died. He was, then reborn in a different country as a Chandala (out-caste). There he married and had some children. After some time, all the members of his family died and he went to another country where he was proclaimed as a king. He ruled that country for about

8 years. After that period, the people of that town came to know that their king was a Chandala (out-caste) so, they burnt themselves. Gadhi also became sorry for what had happened, and began to burn himself to death. Just at that moment he came out from his dip from the lake and found that he had not to rule over a kingdom but had to complete the recitation of his mantras. All these events of about 60 years happened to Gadhi in a few seconds' dip in the water. Gadhi could not account for the mysteries of the two different times at the same place. In a dream, such incidents do happen but these experiences were in a dip of water. After some time, a guest came to the ashram of Gadhi and said he came from a Kir country, and added that a chandal King ruled that country for 8 years, Gadhi went there to verify the statement of the guest. He found that what he had said was true. Gadhi came back to his place and began further penance. After some time Lord Vishnu appeared before Gadhi and Gadhi asked him why he saw with his own eyes the same chimera which he saw in his dip in water. The Lord said to Gadhi that all the incidents were the creations of his mind. Time is long or short according to the nature of the observations. It is the mind that creates past, present and future. A palace that requires a year for construction is built in a moment in a dream.

Vishnu then disappeared. Gadhi thought to himself that if everything was his dream, other persons could not be a witness of the same dream. So once again Gadhi went to that country and all the people said that a chandala-king did rule there for 8 years. He came back and requested Vishnu to appear before him again. Vishnu appeared, Gadhi put his difficulty before him. Vishnu said "The world is nothing but an illusion. By ignoring the self, all imaginary events arise in the mind. There did live a Chandala in that country. When you plunged into water, the wrong impression was created in the form of illusion simply by my thought power. Just as sometimes mind forgets some events observed at a particular time, so it perceives through illusion events which were never observed anywhere before; just as a Yogi is able to see past and future together, so you also saw through illusion at the present time the whole life story of that king and believed that king to be yourself. This temporary illusion of yours is nothing compared to the life-long illusive impressions that people entertain in considering as their own, their wives, children, home etc. which are not connected with them in any sense of the term. If that mind is suppressed, the wheel of maya does not do any harm to the man; therefore, try to control the mind and you will get the knowledge of the Infinite." Saying this Vishnu disappeared, Gadhi controlled his mind and got true knowledge. He became free from all worldly attachment and obtained eternal bliss. A man's life can also be compared to a plunge in a drop of water. Every man is born from a drop of water viz. the semen of his father. Having remained in that water, he gets various experiences for 60 or 70 years like the experiences of Gadhi. Once I happened to visit a high school in which I passed matric examination some 40 years back. None of the students who saw me there were born when I was studying there. They could not believe that an old man like myself did study at one time in their High School. But all these were relative accounts. The I that studied was not the I that visited that High School. Every event contains its own observer. To connect the observations of two observers in an erroneous way gives rise to a wrong conception of time. The waking ego does not dream and the dreaming ego does not come in the waking condition.

a man is on the point of being drowned and if he is saved, on coming to his senses if he is asked how he felt, he reports that he saw before him the incidents of his whole life in a moment as if they passed on a film-screen. When we remember something that has gone by, the past events are in the present state of the mind. Time gets a standard varying with the outlook of events by the observer. Different individuals assign different epochs and different distances to the same event and the relation between the epochs they assign is definite for any two observers who stand in the same relation to the rest of the universe. Creation never recedes in the past, it is just within the limits of the observability in our own present. This is a fact to which we are led by the strictest interpretation of modern physics. Propositions about the state of a system prior to the moment in which they are given are meaningless. The end of observation is in the beginning of observation. It is stated clearly in the Yoga Vasishtha that we see the world not because it exists before we observe it but it exists because we observe it. This is called दृष्टि–सृष्टि वाद. An object can exist before we see it but an event does not exist before we see it. Every event contains its own time–space measure. In spite of this, modern scientists like the Lord Vishnu in the above story have been able to find communicability between different observers. The criterion of communicability for knowledge to become scientific, instead of remaining in the chaos of individual experience does enforce upon any epistemology of science a 'coherence' test for its truth. That is to say, we do not test truthfulness by comparing a mental image with some independent object but by testing whether all the images constructed are self–consistent when all the transformations of relativity are correctly manipulated. This is an essential feature of modern attomic as well as astronomical physics. A proposition becomes a "law" by becoming communicable and is guaranteed as such when the separate impressions of the separated observers are capable of rational correlation. The western new physical science is able to prove this correlation by Mathematics and this enables us to realise the wonders of the time-space maya of the Almighty Lord.

The Story of Lila as described in the Yoga Vasishtha.

This story is given in canto. 16, Chapter 3 on "creation". There, relativity of time is wonderfully described. Many persons find it difficult to reconcile their minds to the events given therein. There was a king by name Padma. Lila was his queen. They were both devoted to each other. There was so much love between them that Lila did not want any separation. Lila, therefore, by penance and meditation worshipped Goddess Saraswati.

When Saraswati appeared, she prayed for two boons (1) that her husband should be immortal (2) Saraswati should appear before her whenever her help was prayed for. These two boons were given by the Goddess. Then Lila began to enjoy her choicest worldly pleasures. After some time the king Padma died. Lila called Saraswati. The Goddess asked her to preserve the dead body under a heap of flowers and promised her that her husband would be alive in a few days.

Lila wanted to know where her husband was at the time and what he was doing. The Goddess replied that there were 3 forms of space viz:–

(1) Chitakash or space full of desires.

(2) Chidakash or spiritual space.

(3) Physical space.

"Your husband is now in a place which lies in the zone of spiritual region. By concentration, that region can be seen here. It is supposed to be a separate region of the spirit: so you may leave aside all thoughts and try to occupy that region. The spirit being omnipresent, you will surely hit upon the spot where your husband's spirit is present now." Lila fell in a trance and left her physical body. In that spiritual region, Lila saw her husband [now named Vidurath] ruling another country. Then Lila finished her meditation and became conscious of the original region where the dead body of her husband was lying. Lila called the Goddess Saraswati and prayed her to tell her which world was true and which false. The Goddess said "the new world seen by you cannot exist without a cause. The old world is the cause. The new creation has been formed by the impressions of the old, your anxiety to have your husband alive has been the cause of the creation of the new world. This present creation is also false; it looks true and beautiful by external environments."

Lila:—Please explain to me how the present creation is false.

Goddess Saraswrti:—In the sphere of self, there is a space. In its corner there is a village where a priest performing his daily sacrifice lived. His name was Vasistha. He had a wife by name Arundhati. Once this Brahmin priest was sitting on the peak of a neighbouring mountain. He saw a king passing there. The king was going for a hunt. Seeing him Vasistha imagined that a king's life was happier and so he desired to be a king in the next life. His wife also wanted to remain with the same husband. She worshipped me and took a promise from me that her husband's spirit might not part from the body nor leave the house. In course of time, the Brahmin died. He stayed in the ethereal space of the same house. Due to the deep ardent mental desire in the previous body, the Brahmin took the form of the powerful king Padma who is now your husband. *To day is the eighth day after his death*, you are Arundhati, the wife of that Brahman. This present illusion in the form of life has been reflected from the previous illusory creation. There is no real form of creation except false knowledge which is the root cause of all mischief. Lila:—O Goddess, how could that Brahmin have been born as king Padma in such a short time and how could I have been his wife. Kindly explain all this to me clearly.

Goddess:— The spirit of that Brahmin in that village is in the form of a soul.He sees this country in his mental region. This experience is similar to that of a man who assumes a new form during a dream.

Lila : You told me that the Brahmin died only eight days back, and here several years have passed since we are born.

Goddess:—In the spiritual region, there is no definite length of space and there is no definite period of time. This earth is also only a kind of perception. The whole universe with its moments as well as its age, appears to be so to one who has an illusion of birth based on the false knowledge of ego as being "I" or "you". As soon as a man dies and experiences new perceptions, he thinks he is supported by a new physical body, and that he is the son of a particular father, that he is aged so many years etc. All this is due to the false belief of the identification of the soul with the mind and the body. As a matter of fact he is a spirit and he has no relation to his body and other relatives. As a matter of fact life is pure spirit. The same spirit which appears an observer is the very spirit that is found in the thing observed. Just as waves are not separate from the ocean, so the dream condition, this waking condition, next world and previous world are not separate from the spirit. Hence the world is neither created nor could it ever be destroyed. It has no existence by itself. What appears as the world is only an aspect of the spirit. A living person experiencing a momentary illusion of death in the twinkling of an eye perceives in the next birth the sight of a beautiful creation in the form of space and time, the beginning of life, family, servant and birth, mother, father, son, and age, place, movements, etc; all these are due to the wishes of the previous birth. The soul in a moment feels as if years have gone by. King Harischandra felt in a dream that twelve years had passed. A man who has lost his dear wife seems to feel a day as long as a year. Thousands of creations are visible when the illusion in the form of death vanishes. This gives a false impression of distance where there is no distance and duration of a long age in a moment. Just as in a dream, a man sees one who is not a father to be a father, so, what is not experienced, is also taken to be experienced.

Lila:—As I am not used to think in this manner, I am not able to comprehand your statements fully; so please take me to that creation viz. the village in which Vasistha lived with his wife.

Then both the Goddess and Lila concentrated and reached by mental process, the old region of the dead Brahman–priest Vasistha. There they saw that all the people of the house were full of grief and tears, because Vasistha and Arundhati had died only eight days back. Lila saw her eldest son of her previous birth. The son narrated about the death of his parents. Lila placed her hand over the head of her son, and this gave him some comfort.

Then Lila desired to see the country in which her husband lived and requested the Goddess to arrange for the same.

The Goddess said: Oh, Lila, you have passed through hundreds of births and acted as a wife to hundreds of husbands. I have shown you only three of the births that you had. Of these Brahmin Vasistha has been reduced to ashes, King Padma is lying as a corpse under the cover of flowers and the third is ruling as a king now in another part of the world. Now tell me what husband you propose to meet. Though in the spiritual region, all these creations are here, yet physically there is a distance of millions of miles between them. What is known as spirit sprouts up as creation itself. The spirit assumes different forms, including divisions of time such as days etc., and forms of space as so many worlds.

Lila:— Yes, what you say is correct, I begin to remember now all my previous births.

The main question to be considered here is not what we see but how we see what we do see. The attention of the whole world is now drawn to this matter after the theory of Relativity. The value of Einstein's work in proving the truth of relativity by physical facts instead of by metaphysical conceptions is immense. The entire principle of relativity raises a gigantic question mark against all our experiences of the universe. To understand it properly requires hard thinking. Just as food cannot be digested without being fully masticated, so such ideas cannot be assimilated without having been thought over and over.

The Goddess said to Lila:—As a dream body loses its existence after its dream state is known, so when desires subside, consciousness of body in the wakeful stage vanishes and a person attains to liberation from life. This requires constant practice. Always think of the self, talk of the self and remain devoted to it. Aversion to worldly matters would help the acquirement of that knowledge. Those who try to feel that the knower and the known are not separate are real seekers after true knowledge. Likes and dislikes can be checked by austerities but they can be reduced to nothingness only by true knowledge.

Lila being desirous to see the present condition of her husband, both the ladies flew with their pscychic bodies and piercing through many surroundings and layers of different worlds in ether entered the world where Lila's dead husband Padma was ruling as king Vidurath. At that time another king Sindhuraja had invaded his country with a powerful army and Vidurath was preparing to surmount the difficulties. The Goddess appeared before the king and asked him "Who are you? Whose son are you and when were you born in this country? A minister of the king replied that their king's father's name was Nabhoratha, his mother's name was Sumitra, and that his parents had gone to the forest for devotion when Vidurath was only ten years old. Then the Goddess asked the king to remember his past life by right thinking and she placed her hand on his head; by this touch, the king remembered his previous sovereignty as king Padma, also his pleasures in the company of Lila and lastly his death. He replied;--Oh, Goddess; *It seems a miracle that only a day has passed after my death and here I am seventy years of age.*

Goddess:—After your illusion known as death was experienced by you, you lost consciousness of that world. At that time and in the space of that very house you got the consciousness of this life. Your former world now became manifest in the space of that village which was in that region of your birth previous to that of your life as Padma. Your spirit had prayed to me in that Brahmin house to be a king; then you got the consciousness of the next world of king Padma and now through illusion you consider yourself to be 70 years old and born of particular parents and that you did particular things. At the moment you died in your previous life, this consciousness arose of its own accord in your mind. Just as in a dream, in a moment one experiences the duration of 100 years, in waking condition one gets an illusion of life and death; just as in a dream one sees his head cut off, so you are under the spell of illusion of this world with your varied activities therein. As a matter of fact you are neither born nor dead, you are pure spirit. All these things viz. this mountain, this tower, the enemy and we ourselves even are not real objects. People are only carrying wrong activities in the universal Self.

King Vidurath :–If this is so, are these, my attendants, who are alive true like myself?

Goddess :–One who knows the Absolute Brahma does not think of anything connected with the world to be true. He is convinced that only false knowledge has created this whole illusion in the form of the world. Just as a living person would consider his death in dream to be purely an illusion, so the fear of death etc. in the wakeful state is groundless. In a dream when you take me to be real, I am real and vice versa, you are real to me in my dream. In the waking condition also, time and space are not real. They are as relative as they are in a dream.

Vidurath :--Oh Goddes, kindly do me the favour that I may go to my previous body from this life as I might pass from one dream to another.

Goddess :–O King, you will have to die in this great battle now and then you will get back to your former kingdom. You will be able to notice all these events.

The king Viduratha was killed in the battle and his spirit entered the death body of king--Padma.

The Goddess said to Lila ; This whole wonder of creation is nothing but a phantasm. The world itself is a form of perception. A wise man after attaining right knowledge leaves off the use of the word "objects." Just as a man sees water in a dream, so this self turns to the state of water when it so wishes. Just as the people residing in the north sea do not know anything about the activities of the people of the south, and they are conversant with their own respective knowledge, in the same way, the moveable and immoveable are absorbed in their respective knowledge.

This story may be right or wrong but it is meant to show the vanity of the world. The idea of space, time, motion, cause and effect is therein shown to be relative. It is stated therein, that every individual experiences events in accordance with the mode of his consciousness. If a man strongly conceives that the duration of a twinkling of an eye is age or Kalpa, it turns out to be so. He who conceives an age or Kalpa to be a moment finds it having that much duration. This is the nature of the spirit. A man suffering from any form of pain finds a night as long as an age or Kalpa. To one in happy circumstances it passes away in a moment. In dream, a moment takes the form of a very long time and on waking, that long time turns out to be a moment. The whole of man's life, according to the Indian Philosophy, is only a moment of Brahma; Brahma's lifetime is Vishnu's day and the whole span of the life of Vishnu is equal to Shanker's one day. To a man in sleep or to one in concentration, there are no events and there is neither day or night, object or creation. The motion of time is astonishing. An experience of thousands of years' creation is felt even in a millionth part of a second. As a matter of fact, a day does not rise or set for everybody. Brahma, the creator by inner vision experiences the duration of so many ages in the millionth part of his moment. The nature of space also differs in the same way as time. If one man goes from Bombay to Madras on foot, he would take a longer time than going there by train and a still shorter time by plane.

There are two separate ways of attacking the structure of the universe. The one is to make use of every available piece of empirical knowledge known to be valid on the small scale. The other is to begin with the situation actually presented to us by the totality of things, without supposing ourselves to know anything to start with, of the facts used in the first method. In the second method we attempt a complete reconstruction of physics from the bottom upward on an axiomatic basis. The second method frees itself from the presumptions tacitly made in the first method. In the first method, there is uniform time. In the second method there is no uniform time. In the second method, the whole universe i. e. the observations of the observer constitute the observer's clock, or the correlation of events at the observer is called the observer's clock. If this is properly understood, then it is easy to understand that although 8 days had passed since the death of Vasistha, 50 years time had passed for the King Padma and altough one day had passed since the death of King Padma, he was ruling another kingdom as king Vidurath for about 70 years. The regraduation of clocks affects all length measures and so all space-coordinates.

as well as time coordinates. It also affects all velocities, changing all velocities into velocities relative to the observer. This reduces the observer of that system to relative rest and the system becomes relativily stationary. Until we know which scale of time is being used in any given context, it is not possible to give an unambiguous meaning to any assertion involving time. This brings us to the Vivarta-vada (theory of illusion) of the Vedant philosophy.

In the story of King Lavan also, similar events- have happened. In a few moments time, he has experienced events of about 50 years. Just as dream state appears to be true according to the dream time which is created from the dreamer's observations, so waking state appears to be true according to the waking time which is created from the waking man's desires and observations. Then he sees even non-existing things as really existing. The mistake lies in the whole attention being given to the objects observed and it can be corrected when the whole attention is given to the method of observation. Just as an actor in a drama plays different parts so the predilections of a mind assume variegated forms in a body. The mind elaborates what is trivial and believes it to be true which is false. No object exists without its relative consciousness. As long as there is otherness (Dvaita) in a mind, the illusion of creation and egoism will arise. When the Divine is realised, there remains only one supreme self, and there is no sense of any creation.

8 The Concept of time in the Puranas :

As in the Yoga Vasistha, so in the Puranas also, the relativity of time is elucidated by means of some mythological stories. The following two stories are given here which elucidate this subject :–

1. Time–space Maya seen by Sudama :–

This is something like Gadhi Brahman's experiences referred above. Sudama, a devotee of Shri Krishna wanted to see the Maya of the Lord. Once Sudama and Krishna went to take a bath in a river. There, they began to play and started competition as to who was able to remain in the water for a longer time. Then both had a dip in the river. Krishna evoked Maya to show her nature. Maya dragged Sudama in the water and carried him to a distant jungle and threw him out of the river. There some robbers came. They took away Sudama to their village with the intention of killing him. They wanted to sacrifice him before their Goddess. But the daughter of the Headman fell in love with Sudama. She disguised hearself as a goddess, entered the temple and asked the village–people not to kill the foreigner but to arrange his marriage with the daughter of the Headman. Accordingly Sudama was married. After some years, he got three children. All these incidents he experienced while he was under water for a minute or so in the river. Sudama did not know how he came to be there. The custom of that village was that if any married woman died, her husband had to be burnt alive with her. Therefore, Sudama became worried and he wished that his wife should not die before him. But his wife was bitten by a serpent and she died. Thereupon Sudama was taken to the burning Ghat, with the body of his dead wife. There, he wanted to take a bath before joining his wife on the fire. While taking a dip in the water, Maya dragged him back to the original place. Sudama got out of water. Krishna asked him how he took so much time under water. Sudama was surprised with this time–space Maya of the Lord. In a moment's plunge, he had passed through experiences of about 30 years. Here also the time was due to his experiences. As in dream, so in the waking condition. Every man's body is formed from a mere drop of water in which he has plunged himself. After observing various events of the human life, he begins to accept the man–sized time and man–sized space as a fact. But there is no fixed uniform time now left in science i. e. there are as many times as there are observers.

Maya or illusion of time experienced by Narad:

Once Narad and Krishna went to play in a forest. There they became thirsty. Krishna asked Narad to fetch some water. Narad went to a neighbouring village and asked somebody for water. One young beautiful girl came out. On seeing her, Narad forgot all about water and began to have long talks with her. Then with the consent of the parents of that girl, both were married. They passed about 20 years together in that married life and had 3 children. Their elders had died. After some time, there was considerable rain there and the village was flooded. Narad came out with his wife and three children, but the flood increased. His wife and three children were–carried away by the flood. Narad began to weep, and suddenly a voice came from his back "Narad, it is half an hour since you have gone to fetch water for me, please come immediately". Narad opened his eyes, walked in the direction from where the sound came. He was surprised to find that events extending over 20 years happened in half an hour. The moral of this story is that as soon as a man sees a young girl, he begins to see a new world. His young age deceives him. He begins to consider that time–space order is a fact. He experiences a new life with new relations and with new time. But he finds it difficult to grasp that time is relative. As in a dream, so in the waking condition.

9. Shri Raman Maharshi's experience of time:-

Shri Raman Maharshi had remained at one place viz. at Arunachala (Tiruvannamalai) from September 1896 to April 50 i. e. for nearly 53½ years. During this time, he had not seen much of the world. In these years the world had rushed on in its mad career of change faster than ever dreamt of, in the recorded history of man. Yet these events (of two world-wars) had left the Maharshi absolutely untouched. He said that these years had passed like a flash. They were quite uneventful in his life. He said that nothing had happened to him. He was the same as he had always been, the same, the essential and eternal. This means that the nature of our observations, decides our time i. e. time is not fundamental but derivative. He gives his experiences of time in the following two verses:-

भूतं भविष्यच्च भवत्स्वकाले
तद्वर्तमानस्य विहाय तत्त्वम् ।
हास्यान किं स्याद्गत भावि चर्चा
विनैक संख्यां गणनेव लोके ॥

i. e. Past was present, when that was current when it comes to pass, the future also will be present. Unaware of the present in three-fold time, rediculous it is to discourse on future and past; canst thou the numbers count, without the unit one ?

In other words, a man divides the same events into past, present and future. The true character of time is an eternal present:-

भाति दिक्काळ कथा विनाऽस्मान्
दिक्काल लीलेह वपुर्वयं चेत् ।
न क्वापि भामो न कदापि भामो
वयं तु सर्वत्र सदा च भामः ॥

i. e. where is space without me and where is time ? The body exists in space and time but no body am I, No where am I, in no time am I, yet am I everywhere and in all time.

In other words mind has a close relation to time as a datum of experience. In no sense of the term is time an objective reality. Those who are not reading newspapers and are not listening to radios or worldly talks, do not worry much about the affairs of the world. Time-sense is closely related to the conscious principle as will be seen from another example given below.

10. Time-sense in Shri Aurobindo's philosophy :

Shri Aurobindo had studied in England from the age of 7 to about 21. After coming to India he worked as vice-principal at the Baroda College and then took active part in politics for some years. He went to Pondicherry in 1910. He carried on his Yogic Sadhana, there for 40 years. He kept himself in touch with the affairs of the world. He believed in future, in progress, and in evolution, His goal remained in the future. He wanted to change the earth consciousness. He wanted to bring about a new race of superman by evolution of nature and by descent of spirit. He said that it was possible to combine spirit and life. In ordinary experience, life is temporary and spirit is eternal. If the two can be combined, either: the spirit will have to be temporal or life will have to be eternal. He wanted that life should be eternal but had not been able to declare what form that life was likely to take. He said that it was a new spiritual adventure. He has written a long spiritual poem "Savitri" in which he has tried to prove that as Savitri was able to regain the life of her huaband Satyavan from the clutches of the God of death (Yama), so it is possible for a cultured human being to create a new kind of Divine life which would not be subject to death. This was a great adventure and we have seen the results of this adventure. He has written in "Arya" of 15-10-19 as follows :–

"Who shall persuade me that my infinity can only be an eternal full stop, an endless repose, an infinite cessation ? much rather should infinity be capable of an infinite self-experession."

He did not show when his evolution will stop, On the contrary, he died on 5-12-50, owing to some urinary disease. He believed that a Yogi should be able to take re-birth. He said that past man was the father of the man that now is, the present man is the father of the man that will be. He had given more attention to our waking experiences than to our experiences of dream and sound sleep. He wanted that nature and spirit should be immortal. In the last chapter of his book "The Life Divine," he writes "in our present life of nature, in our externalised surface existence, it is the world that seems to create us, but in the turn to the spiritual, it is we who must create ourselves and our world. To become complete in being, in force of being, in delight of being and to live in this integrated completeness is the Divine living. There is no separatiive ego in him to initiate anything." This is a well-balanced harmonious statement. He wanted to find a next decisive step for evolution for humanity in the near or measurable future. He did not say when and how this future will end. In short, he wanted to unite differences and that required time. In the Vedant philosophy, the aspirant is asked to deny differences. Shri Aurobindo wanted to reach God and then return from God. The Vedant philosophy says that he who wants to return from God does not reach God. Here the main question is about time and space. Einstein says that space is not determined unless the functions of the co-ordinates are known. Therefore, a Yogi creates his own world and plays within it. God does the same and according to the new physics, every man creates his own world i. e. he is in the beginning, middle and end of his own system. In other words the only events which an observer actually experiences are events at himself.

11. Time in the Jain Philosophy.

The Jain philosophy does not believe in the creation of the world by God or by one divine being. There must be at least two, matter and spirit जड़–चेतन. Thise is something like the Sankhya philosophy. The only difference between the two is that in Sankhya, Purush undergoes no change internal or external whereas in the Jain Philosophy Atma or soul undergoes Sva-Parinam i. e. internal change. Besides, time and space are taken as fundaments in the Jain philosophy although in one sense they are relative also.

12. Time in the Buddha Philosophy.

In the Buddha philosophy, there is relativity of time and yet the things of the world remain for a moment क्षण. The world is like a river flowing continuously and changing at every moment.

13. Time in the Veda and the Vedant.

The concept of time is not quite clear in the Veda which consists of rituals and Upasanas (devotion). In the Purushsukta, it is stated that what is past, what is present and what will happen in future is nothing but the Purush, yet out of one fourth part of the Purush the whole world is created. In the last part of the Vedas, which is called the Vedant, time has been completely transcended ;especially by considering the experiences of the waking state, dream state and of sleep. In one of the best Sanskrit works viz. Mulavidyaniras मूलाविद्या निरास written by Subrahmanya Sharma, an ardent follower of Shri Shankeracharya, the question of time is clearly explained and it agrees perfectly with the results of the modern science of Relativity.

Some sanskrit writers on the vedant philosophy consider that the state of sound sleep (containing ignorance) is the cause and dream state and the waking state are the effects of that ignorance. To this the above author raises objections. He says that the time of the sound sleep does not continue in the dream and the time of dream state does not continue in the waking state.

Several other thinkers of the Vedant philoshphy consider that the world is the vivart of spirit (चेतन) and change (परिणाम) of ignorance अविद्या. But the above author rightly objects to this doctrine as that would lead to dualism. He says on page 233 of above book :-

नहि कालो नाम कश्चित्स्वतन्त्रः पदार्थः सिध्यति जाग्रदाद्यवस्थानवच्छिन्नः। जाग्रत्स्वप्नयोः सममेव हि तत्तदवस्था

प्रतिबद्ध कालदेश निमित्तानां तत्तकालादि प्रतिनियत क्रिया कारक फलानां चोपलब्धिः। सुषुप्तौ पुनः कालादेः कस्यचिदपि नोपलब्धिरस्तीति कुत एव सुषुप्तिः कालिको विशेषः स्यात ? एवं जाग्रत्स्वप्नयोश्च साधारणः कश्चिदप्येकः काल न विद्यते इति न तावपिकालिकौ विशेषाविति युज्यते परमार्थतः। मिथ्याज्ञानमात्रं हि हेतुरवस्था त्रयाभिमाने ॥

This means that that there is no fundamental time which carries on the events of the waking state. In the waking state and in the dream state, every event creates its own time. In the sound sleep, nobody experiences any time, and there is no common time for the dream state and the waking state. Therefore there is no fundamental time. The above three states are formed by erroneous knowledge which keeps a man attached to that state so long as the erroneous knowledge persists.

Time being relative, it is not possible to find valid reasons for the creation of the world. Sir Radhakrishnan writes as follows in the "Hindu View of Life" Page 67 :–

"The hypothesis of creation is a weak one. It assumes that God lived alone for some time and then suddenly it occurred to him to have company when he put forth the world. The theory of manifestation is not more satisfying, for it is difficult to know how the finite can manifest the infinite. If we say that God is transformed into the world, the question arises whether, it is the whole of God that is transformed or only a part. If it is the whole, then there is no God beyond the universe and we lapse into lower pantheism. If it is only a part, then it means that God is capable of being partitioned. We cannot keep one part of God above and another part below. The history of philosophy in India as well as in Europe has been one long illustration of the inability of the human mind to solve the mystery of the relation of God to the world."

Einstein's greatest achievment has been in showing that a temporal concept "simultaneity at a distance" has no meaning without definitions depending not only upon final signal velocity but also upon the motion of observers. The gap between physical and psychological approaches is now being filled in by the Kinematic relativity of Milne, as he bases his theory on individual's immediate experience of time If inertia is a property imposed by motions whose nature is determined by needing to be capable of correlation between observers, its quantitative measure will depend on the number of observations made with limited knowledge. Therefore time-zero can only be experienced when all events are merged in one observer. It is therefore possible to accept relative reality of time in one condition without losing sight of its supersession in spiritual experience, In short the Indian philosophy teaches that time and space do not exist in the Absolute God and the new western science of relativity teaches that time and space do not exist in the world. Aldous Huxly has written a novel by name "Time must have a stop". It is only by taking the fact of eternity into account that we can deliver thought from its slavery to time.

14. Time in the Muslim Culture.

Muslim culture has now become a part of the Indian philosophy. It would be advisable for Hindus to study the Muslim philosophy. The Muslims should also study the Hindu philosophy. Muslim religion like the Christian religion, is not very old. Both the Christian and the Muslim cultures are preoccupied with events in time. They believe in progress to which there is no end. In this connection Aldous Huxly writes in "perenial philosophy (page 23) that "unlike early Judaism, Christianity and Mahomedanism, (all of them obsessed with time), Hinduism and Buddhism have never been persecuting faiths, have preached almost no holy wars and have refrained from religious imperialism. xxx. Another practical corollary of eternity philosophies such as Hinduism and Buddhism is a morality inculcating kindness to animals. xx The reign of violence will never come to an end until the adherents of every religion renounce the idolatrous time-philosophies."

This means that man s supreme good cannot be placed in future. To-day, the all important thing is not the state of the mind but the state of environment. This is a great mistake. In this condition the future and its problems will haunt a man like a guilty conscience or a consuming passion. If time is to be defined in terms of events, it must be impossible for the universe to be changing for more than an instant or the universe exists when known and according to the condition of the knower. It is stated in the Indian philosophy that every event has pratibhasik satta प्रातिभासिक सत्ता which is equal to gnata satta ज्ञात सत्ता i. e. all events exist only when known. Unknown events do not exist.

Therefore, we must have a sound philosophy of life. This means right thinking and right observation. When a man gains the consciousness of unity, the consciousness of time and space as limitations will disappear. As dream time does not begin before the dream begins, waking time does not begin before the waking state begins. A good culture enables a man to transcend time and space and therefore to transcend histories and geographies completely. As waking state destroys the dream completely, right observation and right thinking will enable us to correct the time-space mistakes of the waking state also.

People want something for to-morrow. In that desire, they fail to find out what is wrong now. The

Indian philosophy says तत्वमसि that art thou, it does not say "that will be thou". A wise man begins by improving himself so that he may help other people without running the risk of being corrupted in the process. Nobody can do a proper job with dirty or blunt instruments. We do not want regimentation but integration and this means a new kind of cultural field with new kinds of aesthetic values, and this means sacrifice of lower and sensate culture. We want an all-embracing field ब्रह्म-धर्म which the Indian philosophy promises. The western culture has given to the world slums, factories and offices in the last century; it is now offering atom-bombs and hydrogen-bombs. The only hope for the world lies in concentrating constantly on things which are beyond time. The present form of nationalism is something like a lunatic idolatry which forces a man to concentrate on problems within time.

The universe, though describable in the space and time of an observer is neither in space nor in time; to assert either would be meaningless. There is no fundamental entity called "space" existing in itself, in which the world is placed, nor is there any fundamental "time" in which the world events can be narrated. Dream space does not begin before the dream begins and dream time does not begin before the dream begins. Similar situation exists for our waking experiences. Out of an observer's temporal experiences, we construct observed time and out of the same time-measures, observer's space. But there is no underlying time or space with which these can conceivably be correlated. Thus the universe and with it if we posit one, its creator, is neither in space nor in time. The event of creation can be placed prior to the experience of any individual but no meaning would be attached to asking what was prior to creation. For as there were no observers to experience a temporal sequence, the motion of a temporal experience and of time prior to creation is without any significance.

Then what about God ? By taking the very name of God diligently, the human observer is changed into a Divine observer and he begins to experience cosmos as a whole. Therefore, devotional methods are also useful for the well-being of humanity.

Prof. Milne has made a distinction of physical time into alternate scales, each constituting our knowledge into a different system and has brought physics to a point from whence philosophers will be able to obtain a good guide to lead humanity forward towards right observation and right thinking. Many persons firmly believe that the objects with the world do exist before we see them but this is a great mistake. The meaning of "before we see them" is now made very clear by the theory of relativity which has proved by mathematics that there is no before or after absolutely. As in dream so in the waking condition.

We cannot say whether two succeeding periods are equal because there is no uniform scale of time. We cannot catch the fleeting minute and put it alongside a later minute. A system which provides a frame of reference can be used to define a scale of time. In other words, an individual's awareness of something which he calls the passage of time provides measures of length and distance. The means of perception is light but the measure of light is created from the quality of the observations i. e. the correlation of events at the observer is called a clock arbitrarily graduated. Apparent differences arise from the different possible ways in which the "clocks" used by the observers may be graduated. In this way it is possible for a system to maintain relatively stationary equivalence. As in dream, so in the waking condition. Any equivalence generated by some specific function can be transformed into uniform motion-equivalence by suitable clock-regraduation. Therefore no meaning attaches to the question "What was before creation?" The system appears to create the space it needs as it expands. The choice of time-scale does not affect phenomena but only the description of phenomena. Every assertion about the contents of the system involves the mention of the age of the observer and so gives an appearance as if the system was once created. As in dream, so in the waking state. A dream does not appear to be a dream at the time of dream. There is an age for the dream system. At that time it appears like a waking state.

When a man gains the consciousness of unity, the consciousness of time and space as limitations will disappear. A spiritualised man is a new genus of man exhibiting a new quality of life. His self becomes as wide as the universe itself because there is no fundamental space to restrict his freedom.

When the spiritual perception transcends time and space, it will reveal fundamental properties of the human soul as a whole. It is a function of the total personality, not of an obstructed momentary mental state.

The Supreme Divine is a time-less reality. We should, therefore, seek it first and leave other things alone. If a man does not rise above his present environment, he is bound to be an angry tamed ape.

The second world war made a greater mess in our life than the first. The third world war will make a still greater mess of everything. Vices have increased and morality has gone down. Government control and taxes have increased. Military expenses are increasing by leaps and bounds. Man is the victim of what he worships as true. If true truth is not found out by him in good time, his mind will be a lumber house and he will never attain salvation. I, therefore, request every sane man to study Indian Philosophy, leaving everything alone. He must make it a point to study it in his spare moments so that he may not miss the bus in this, his precious life.

Indian philosophy as given by the sages in the Upanishads maintain that nothing determinate i. e. definite in character is immortal. All determinate things are transitory. Therefore the nature of the Absolute निर्गुण ब्रह्म is not describable by any determinate properties whatever. Indian philosophy identifies the Divine with a time-less factor viz: सद् चित् आनंद्.

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Review of "Wonders of the Time-Space" in the Bharat-jyoti (Bombay-weekly) of 24-12-1950.

Einstein's Theory of Relativity is as fascinating a subject as it is difficult to understand fully. It is often said that the number of people in the world who have thoroughly grasped this theory in all its implications is so small, as to be easily computed on one's finger-tips. Swami Madhavtirtha is, obviously, one among them; for, in his "Wonders of the Time Space" an attempt is made to apply the principles of the Relativity Theory to psychology and philosophy. This naturally leads to the Vivarta (illusion) and Ajatvada theories of Vedant. The book discusses the diverse aspect of the Relativity concept from the religious, physical and psychical points of view. In his concluding remarks the author very ably discusses some of the philosophical precipitates of this theory and points out that the essence of a good life lies in concentrating on the realisation of the Supreme Eternal Spirit. Swami Madhavtirtha has really done a good piece of work in discussing the metaphysical implications of the Theory of Relativity in the light both of modern Science and Indian philosophy.

In this task of his, the Swami has brought to bear the results of his long study and comprehensive understanding of Indian philosophy and the book will prove of great interest to readers in search of a work, coordinating physics with philosophy.

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